

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: CHENG, Kun-Lung

SERIAL NO.:

FILED: Herewith

TITLE: PAPERBOARD WITH A WOVEN LAYER AND EDGE STRUCTURE

REMARKS ON PRELIMINARY AMENDMENT

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In this preliminary amendment, please consider the following remarks in conjunction with the amendments to the above-identified application as follows:

REMARKS

The present Preliminary Amendment has been entered for the purpose of placing the application into a more proper U.S. format. In particular, certain grammatical and idiomatic inconsistencies have been corrected by amendment to the specification, and the application is corrected for certain typographical errors found in the originally submitted application. No new matter has been added by these amendments.

The Claims and Abstract have been amended so as to conform with U.S. requirements.

Applicant respectfully requests that the present Amendment be entered prior to an initial Official Action on the present application.

Respectfully submitted,

\_\_\_\_\_  
3-19-04  
Date

\_\_\_\_\_  
John S. Egbert  
Reg. No. 30,627  
Andrew W. Chu  
Reg. No. 46,625  
Attorney for Applicant  
Harrison & Egbert  
412 Main Street, 7<sup>th</sup> Floor  
Houston, Texas 77002  
(713)224-8080  
(713)223-4873 fax

## **PAPERBOARD WITH A WOVEN LAYER AND EDGE STRUCTURE**

### RELATED U.S. APPLICATIONS

Not applicable.

### STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable.

### REFERENCE TO MICROFICHE APPENDIX

Not applicable.

### FIELD OF THE INVENTION

[0001] The present invention relates generally to ~~an edge structure of container paperboard object~~ with ~~weaved tier~~ a paperboard with a woven layer and edge structure, and more particularly to a strengthened structure of ~~paperboard object with weaved tier~~ paperboard with a woven layer, which mainly makes use of stitching of the decorative edge of ~~paperboard object~~ the trimming edge to fix the ~~weaved tier~~ woven layer and ~~paperboard~~ cardboard so as to strengthen the intensity of the strengthened paperboard trimming edge, improve the decorative function of the ~~paperboard object~~ trimming edge, facilitate installation and process of ~~paper container with weaved tier~~ a paperboard container with a woven layer, increase the intensity of paper container structure and prolong its life-span.

## BACKGROUND OF THE INVENTION

[0002] Containers used in traditional furniture or office are made of wooden material by pressing, such as plywood, fiberboard or rattan, etc., and then assembled into different kinds of containers for use. However, in practice, the materials used still completely rely on cutting trees, which endangers the gradually exhausted forest resources. When furniture is replaced later, the waste wooden material cannot be recycled and reused, which is another burden to environment and zoology and really fails to meet the soaring basic demand of modern environmental protection consciousness. Therefore, it is a new model of products expected by customers, as well as the research and development target in the related industries to develop a kind of containers, which are made of paper completely and different from the traditional ones, to meet the demand of ~~recycle~~ recycling, facilitate structure installation, even meet different demands of apparent decoration and largely strengthen environmental protection functions.

## BRIEF SUMMARY OF THE INVENTION

[0003] The developed functions of the invention are as follows:

[0004] 1. Make use of the paperboard ~~object~~ 10 made by cardboard 12 covered with ~~weaved tier~~ a woven layer 11 on a surface to assemble different types of paper containers for furniture or office in a complete paper structure, which can be recycled and reused and meet the requirements of environmental protection.

[0005] 2. Make use of the stitch of the decorative edge 14 to sew the trimming edge 13 of the paperboard ~~object~~ 10 so as to fix the ~~weaved tier~~ woven layer 11 and the cardboard 12, prevent looseness of ~~weaved tier~~ the edge of the woven layer 11 ~~edge~~ or separation of ~~weaved tier~~ edge of the woven layer 11 ~~edge~~ from the cardboard 12, and avoid separation of ~~weaved tier~~ the woven layer 11 from the cardboard 12.

[0006] 3. Make use of the stitch of the decorative edge 14 to sew on the trimming edge 13 of the paperboard ~~object~~ 10 so as to strengthen the intensity of the trimming edge 13 of paperboard ~~object~~ 10 and improve the decorative function of the trimming edge 13 of paperboard ~~object~~ 10.

[0007] 4. Make use of the edge lace 15 wrapped on the trimming edge 13 to sew the stitch 16 on the trimming edge 13 of paperboard ~~object~~ 10 so as to strengthen the intensity of the trimming edge 13 of paperboard ~~object~~ 10 and improve the decorative function of the trimming edge 13 of paperboard ~~object~~ 10.

[0008] The developed functions of the invention are as follows:

[0009] Make use of stitch 16 to sew the designated edge 18 of paperboard ~~object~~ 10 and the folding edge 18 of reverse fold, or fix the ~~waved tier~~ woven layer 11 and cardboard edges 12 to fix the stitch, strengthen the intensity of the trimming edge 13 of paperboard ~~object~~ 10 and improve the decorative function of the trimming edge 13 of paperboard ~~object~~ 10.

[0010] Furniture or office containers can all be installed with the trimming edge 13 of the stitch of the decorative edge 14 on the paperboard ~~object~~ 10, edge lace 15 of stitch 16 or the paperboard ~~object~~ 10 of designated edge 18 to be assorted and implemented effectively according to different patterns of tissue box, file sorting case and file case, etc.

[0011] The trimming edge 13 of the designated paperboard ~~object~~ 10 can span the stitch 17 of the trimming edge 13 directly to strengthen the intensity of trimming edge 13 of paperboard ~~object~~ 10 and improve the decorative function of the paperboard ~~object~~ 10 trimming edge 13.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0012] FIG. 1 shows a perspective view of the present invention.

[0013] FIG. 2 shows a perspective exploded view of paperboard ~~object assembling measure one~~ in the preferred embodiment of the present invention.

[0014] FIG. 3 shows a partial ~~assembling cutaway~~ cross-sectional view of paperboard object ~~assembling measure one~~ in the preferred embodiment of the present invention.

[0015] FIG. 4 shows a ~~perspective exploded~~ another cross-sectional view of paperboard object ~~assembling measure two~~ in an alternative embodiment of the present invention.

[0016] FIG. 5 shows a ~~partial assembling cutaway~~ an exploded perspective view of paperboard object ~~assembling measure two~~ in the alternative embodiment of the present invention shown in Fig. 4.

[0017] FIG. 6 shows a ~~perspective assembled~~ view of paperboard object ~~assembling measure three~~ in of the present invention with a decorative edge.

[0018] FIG. 7 shows a perspective ~~assembled~~ view of paperboard object ~~assembling measure four~~ in of the present invention with connected edges.

[0019] FIG. 8 shows a perspective ~~assembled~~ view of paperboard object ~~assembling measure five~~ in of the present invention with a folded edge.

[0020] FIG. 9 shows a another ~~perspective assembled~~ view of paperboard object ~~assembling measure six~~ in of the present invention with another folded edge.

[0021] FIG. 10 shows a perspective exploded view of ~~implementation case one of~~ a magazine case made by the paperboard object in of the present invention.

[0022] FIG. 11 shows a another ~~perspective assembled~~ view of ~~implementation case one of~~ the magazine case made by the paperboard object in of the present invention in Fig. 10.

[0023] FIG. 12 shows a perspective exploded view of ~~implementation case two of~~ another magazine case made by the paperboard object in of the present invention.

[0024] FIG. 13 shows a another ~~perspective assembled~~ view of ~~implementation case two of~~ the magazine case made by the paperboard object in of the present invention in Fig. 12.

[0025] FIG. 14 shows a perspective exploded view of ~~implementation case one of~~ a tissue box made by the paperboard object in of the present invention.

[0026] FIG. 15 shows a perspective ~~assembled~~ view of ~~implementation case one of the~~ tissue box made by paperboard ~~object in~~ of the present invention in Fig. 14.

[0027] FIG. 16 shows a perspective exploded view of ~~implementation case two of another~~ tissue box made by paperboard ~~object in~~ of the present invention.

[0028] FIG. 17 shows a another perspective ~~assembled~~ view of ~~implementation case two of the~~ tissue box made by paperboard ~~object in~~ of the present invention in Fig. 16.

[0029] FIG. 18 shows a perspective exploded view of ~~implementation case one of a~~ file sorting case made by paperboard ~~object in~~ of the present invention.

[0030] FIG. 19 shows a another perspective ~~assembled~~ view of ~~implementation case one of the~~ file sorting case made by paperboard ~~object in~~ of the present invention in Fig. 18.

[0031] FIG. 20 shows a still another perspective ~~assembled~~ view of ~~use measure of stacking the~~ file sorting case made by paperboard ~~object in~~ of the present invention in Fig. 18.

[0032] FIG. 21 shows a perspective exploded view of ~~implementation case two of another~~ file sorting case made by paperboard ~~object in~~ of the present invention.

[0033] FIG. 22 shows a another perspective ~~assembled~~ view of ~~implementation case two of the~~ file sorting case made by paperboard ~~object in~~ of the present invention in Fig. 21.

[0034] FIG. 23 shows a perspective ~~exploded~~ view of ~~implementation case of a~~ stationery sundries bin made by paperboard ~~object in~~ of the present invention.

[0035] FIG. 24 shows a perspective ~~assembled~~ view of ~~implementation case of a~~ pencil vase made by paperboard ~~object in~~ of the present invention.

[0036] FIG. 25 shows a perspective ~~assembled~~ view of ~~implementation case of a~~ sundries bin made by paperboard ~~object in~~ of the present invention.

[0037] FIG. 26 shows a an exploded perspective ~~assembled~~ view of another ~~implementation case of~~ sundries bin made by paperboard ~~object in~~ of the present invention.

[0038] FIG. 27 shows partial transverse ~~cutaway~~ cross-sectional view of the edge structure shown in FIG. 26.

[0039] FIG. 28 shows ~~assembled planar~~ a top plan view of the structure shown in FIG. 26.

[0040] FIG. 29 shows ~~illustrated instructions for cubage reduce~~ a perspective view of reduction of space by pressing collapsing of the structure of sundries bin shown in FIG. 26

[0041] FIG. 30 shows a perspective exploded view of cylinder sundries bin in the present invention.

[0042] FIG. 31 shows a ~~perspective assembled vertical top~~ cross-sectional view of the lid structure shown in FIG. 30.

### DETAILED DESCRIPTION OF THE INVENTION

[0043] The features and the advantages of the present invention will be more readily understood upon a thoughtful deliberation of the following detailed description of a preferred embodiment of the present invention with reference to the accompanying drawings.

[0044] As shown in FIGS. 1-2, ~~an edge structure of container~~ a paperboard ~~object~~ with includes ~~weaved tie~~ comprises a plurality of cardboards 12 with ~~weaved tiers~~ woven layers 11 covered on surface. Moreover the paperboard ~~object~~ 10 is cut into designated shape according to a containers' pattern, among which, the structure of paperboard ~~object~~ 10 is covered with ~~weaved tiers~~ woven layers 11 on a single side of cardboard 12, or on double sides of cardboard 12 as shown in FIGS. 4 and 5. The characteristics are: there is stitch of the decorative edge 14 on the trimming edge 13 of paperboard ~~object~~ 10 to fix the ~~weaved tier~~ woven layer 11 and paperboard cardboard 12 so as to strengthen the intensity of the strengthened paperboard trimming edge 13 of the strengthened paperboard ~~object~~ 10 and improve the decorative function of the paperboard ~~object~~ 10 trimming edge 13.

[0045] As shown in FIG. 6, an edge lace 15 is covered in the trimming edge 13 of paperboard object 10, which fixes the ~~weaved tier~~ woven layer 11 and cardboard 12 by stitch 14 of paperboard object 10 on the edge lace 15 to strengthen the intensity of the trimming edge 13 of paperboard object 10 and further improve the decorative function of the paperboard object 10 trimming edge 13.

[0046] If the trimming edge 13 of the designated paperboard object 10 can span the stitch 17 directly as shown in FIG. 7, fix the ~~weaved tier~~ woven layer 11 on the trimming edge 13 and the cardboard 12, strengthen the intensity of the trimming edge 13 of paperboard-object 10 at the same time and improve the decorative function of the paperboard-object 10 trimming edge 13.

[0047] As shown in FIGS. 8 and 9, cut the paperboard object 10 into is cut into a designated shape according to the containers' pattern and ~~reserve~~ a folding edge 19 is reserved on the designated edge 18 of paperboard object 10. ~~Reverse, fold the~~ The folding edge 18 is reversed and folded and go through the designated edge 18 of paperboard object 10 and the stitch of folding edge 19 in the place of stitch 16 to fix the ~~weaved tier~~ woven layer 11 on the trimming edge 13 and the cardboard 12, strengthen the intensity of the trimming edge 13 of paperboard object 10 and improve the decorative function of the designated edge 18 of paperboard object 10 in the folding place.

[0048] Therefore, the structure of paperboard object 10 made of cardboard 12 with ~~weaved tier~~ woven layers 11 on surface makes use of the stitch of the decorative edge 14 to sew in the trimming edge 13 of paperboard object 10, or makes use of decorative lace 15 to sew the stitch 16 in the trimming edge 13 of paperboard object 10, or makes use of the adverse folding of the folding edge 18 on the designate edge 18 of paperboard object 10 to sew the designated edge 18 and folding edge 19 through paperboard object 10 with stitch directly. All these measures can fix the ~~weaved tier~~ woven layer 11 and the cardboard 12, prevent looseness of ~~weaved tier~~ the woven layer edge or separation of ~~weaved tier~~ the woven layer 11 edge from cardboard 12, avoid separation of ~~weaved tier~~ the woven layer 11 from cardboard 12, strengthen the intensity of the trimming edge 13 of



paperboard object 10 and improve the decorative function of the trimming edge 13 of paperboard object 10.

[0049] At the same time, paperboard object 10 ~~consisted by weaved tier~~ comprised of the woven layer 11 and cardboard 12 can be assembled into magazine cases as shown in FIGS. 10, 11, 12 and 13, with metal edges and corner fittings of the edge of magazine cases, to equip the paperboard object 10 with trimming edge 13 of stitch of the decorative edge 14, edge lace 15 of stitch 16 or designated edge 18 of folding edge 19. All of these can be assorted and implemented according to the assembling measures of magazine case effectively; ~~Then assemble.~~ The assembly of the paperboard object 10 ~~consisted of weaved tier~~ comprised of a woven layer 11 and cardboard 12 into tissue boxes as shown in FIGS. 14, 15, 16 and 17, or file sorting cases as shown in FIG. 18, 19, 20, 21 and 22, or file cases as shown in FIG. 23. Containers used in furniture or office can all be installed with the trimming edge 13 of stitch of the decorative edge 14 on the paperboard object 10, edge lace 15 of stitch 16 or designated edge 18 to be assorted and implemented effectively according to different patterns of tissue box, file sorting case and file case, etc. At the same time, metal edge 21 and corner fittings 22 in the edge can further strengthen the structure intensity of the trimming edge 13 of paperboard object 10 and the designated edge 18 completely to facilitate assembling and process, strengthen the structure intensity of paper container and prolong its life span.

[0050] As shown in FIGS. 24 and 25, aiming at the pencil vase or sundries bin made by paperboard object 10, which is ~~consisted by weaved tier~~ comprised of a woven layer 11 and cardboard 12, the designated trimming edge 13 spans the stitch 17 directly to strengthen the intensity of trimming edge 13 of paperboard object 10 and improve the decorative function of the trimming edge 13 of paperboard object 10.

[0051] It is another structure implementation case of sundries bins made by paperboard object as shown in FIG. 26, among which, the ~~weaved tier~~ woven layer 11 of a side paperboard object 10 of

the sundries bin and cardboard 12 are wrapped by U-shape cloth lace 30 on four sides and then combined by stitch. Moreover, as shown in FIG. 27, those cloth laces 30 of paperboard ~~object~~ 10 on each side are connected by one diagonal stitch 31. In addition, there is one piece of cloth fabrics 32 on the bottom of sundries bin as its basis. Four sides of cloth fabrics 32 are combined with stitch of side paperboard ~~object~~ 10 respectively. One zipper 33 is installed in the diagonal of the cloth fabrics 32. The function of zipper is shown in FIG. 29. After the zipper 33 is unzipped, there is a diagonal fissure. Moreover, the cloth fabrics 32 are flexible, therefore, each side of paperboard ~~object~~ 10 can be pressed flat to reduce cubage and facilitate delivery. In addition, a paperboard 34 can be placed as underlay inside the sundries bin with basis of cloth fabrics 32. Several places for sundries can be separated by vertical boards 35.

[0052] As shown in FIGS. 30 and 31, the present invention is ~~an implementation case of~~ shown as a cylinder sundries bin, among which, an annular inner paperboard may be reinstalled on the inner walls of a cylinder of ~~paperboard-object~~ 10. Moreover because the paperboard ~~object~~ 10 and inner paperboard 40 are wrapped by cloth lace 41 and combined by stitch and make use of the inner paperboard 40 to form an annular upper side 42 for combining with one bottom paperboard. In the same way, the paperboard ~~object~~ 10 and inner paperboard 40 are wrapped by cloth lace 41 and combined by stitch and make use of the inner paperboard 40 to form an annular lower side 43 for combining with one top paperboard 52.

## ABSTRACT OF THE DISCLOSURE

~~An edge structure of container~~ A paperboard object with weaved tier with a woven layer covered on a surface thereof is researched and developed to integrate the strengthening function of has an edge pattern and trimming edge and ~~the~~ a decorative function, ~~facilitate~~ facilitating installation and process, as well as ~~prolong~~ prolonging its life-span; ~~It mainly makes use of stitch.~~ There is stitching of the decorative edge of ~~paperboard object and fix~~ that can fix the ~~weaved tier and~~ paperboard woven layer and cardboard so as to strengthen the intensity of strengthened paperboard trimming edge, improve the decorative function of the ~~paperboard object~~ trimming edge, or make use of an edge lace covered in the trimming edge of ~~paperboard object~~ to fix the ~~weaved tier~~ woven layer and cardboard by ~~stitch of paperboard object~~ to further strengthen the intensity of the trimming edge of ~~paperboard object~~ to form a paper contain with weaved tier, ~~facilitate assembling and process,~~ strengthen the structure intensity of paper container structure and prolong its life span stitching.